ARCHITECTURE OF THE FUTURE

What's to be mindful of

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- **IT modernization and paradigm-shifting**
- **Implemented enterprise and inter-agency programs: Analytics/Data Management, SOA, BPM/BPR, Case Management, Portals**
- **Program Management & organizational capability development**

Agenda

- From CI/CD Pipelines to Supply Chain Management
- Composable Architecture
- Some thoughts on AI
- Underlying Architectural Principles
- Acquisitions
- Project Management

From CI/CD pipelines to Supply Chain Risk Management

- DevOps Pipelines are beginning to be viewed as Supply Chains
- Supply chain management is the management of the flow of goods and services and includes all processes that transform raw materials into final products. It involves the active streamlining of a business's supply-side activities to maximize customer value and gain a competitive advantage in the marketplace. *(source: Investopedia)*
- Current primary focus – security (perhaps the most concrete and readily tangible area – consequences immediately obvious)
- Other significant Supply Chain elements to follow

Example: Gartner's Software Supply Chain Security Risk mitigation framework

Composable Architecture

- Need to respond and adapt more rapidly to changing business needs and their growing complexity
- More contextualized experience
- From IT Roadmap to Capability Management
- **Capability** – a meaningful strategic building block of enterprise IT architecture and an entity of IT Portfolio
- Anatomically heterogeneous but functioning as a single unit; Plug-and-play principle

Beyond integration

- Assembling “pieces” of major enterprise platforms into meaningful components
- API strategy & governance
- Containerization strategy
- Multi-tenancy strategy & governance
- Enterprise taxonomy & ontology - revived

Some thoughts on AI

- Combining analytical and empirical approaches through ML-driven augmentation
  - Lack of dynamic augmentation = lack of intelligence
- Current approaches appear to be excessively statistical
- Causality analysis
- AI strategy should account for NLP use cases
- ML-driven Abstract Meaning Representation (AMR)

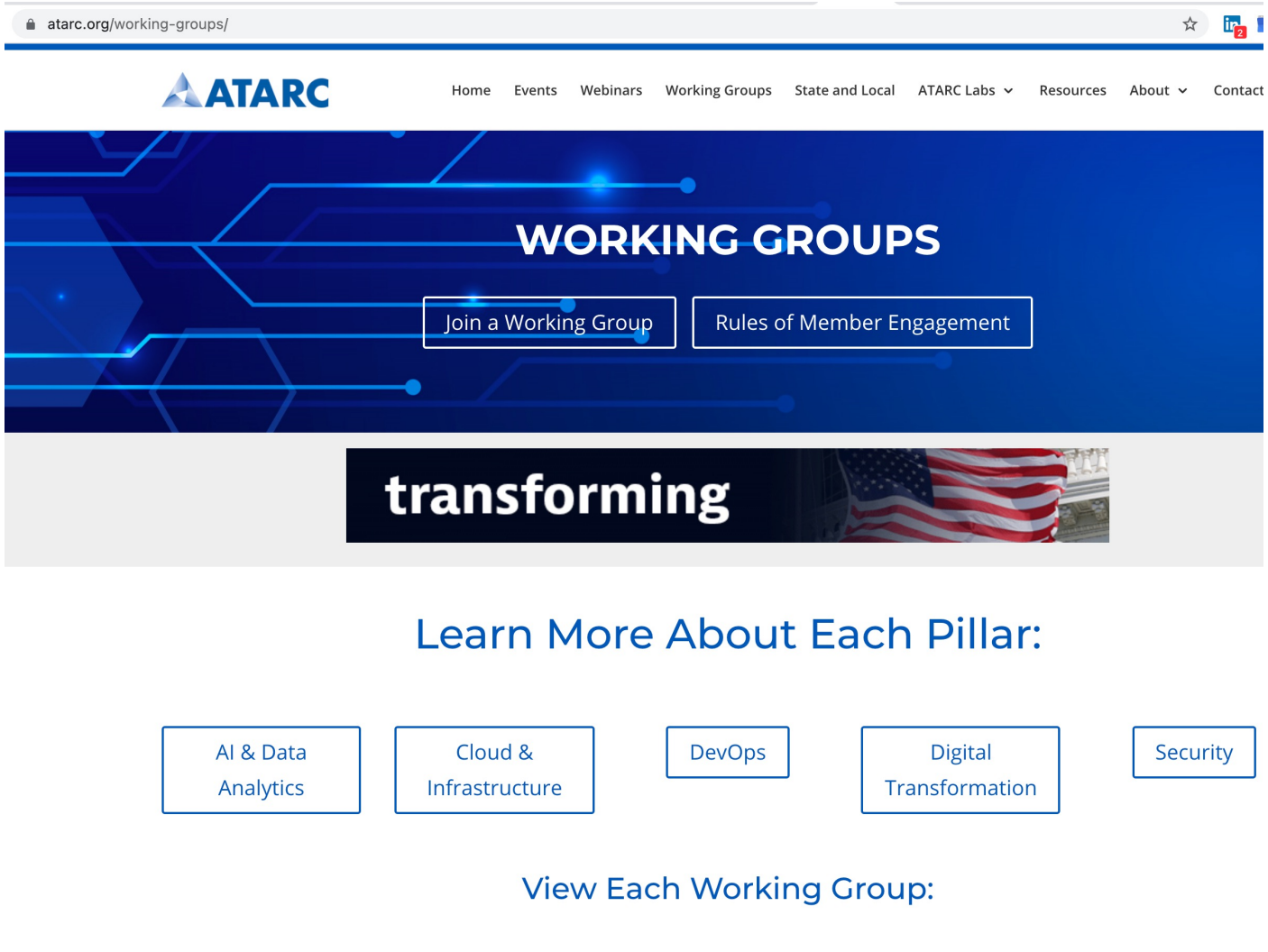
Underlying Architectural Principles

- Plug and play; Technological Agnosticism
- Service- and Component-based Architecture; Common Building Blocks
  - Service → CBB → Capability
- Multi-Tenancy at Infrastructural and Architectural levels
- Combining standardization/central orchestration with tenant-based flexibility
- Deep Analytics
- Contextual, JIT transaction rendering
- Open Standards
- Data/Information security at multiple levels

High-quality, best-value based acquisitions are imperative

- Best value must be defined and made measurable
  - Ammunition to justify award decisions
- PWS' and evaluation criteria must have enough specificity to tangibly and objectively differentiate the offerors
- Estimated long-term costs and total cost of ownership must factor in
- "Try/verify before you buy"

Try before you buy (example)



From Project Management – to Product Management

- Multi-dimensional Product Roadmap as opposed to flat MS Project schedule
- Representations:
  - Feature-based
  - Iteration-based
- Selecting optimal methodology

Thank You.

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